About this document

This document contains screenshots of software available from Cheresources.com. You can find this title in our online store at:

http://www.cheresources.com/invision/store/

Clicking the above link should activate your default browser and launch the site.

We recommend using our search feature to find the title.

If you haven't visited our site before, you can find the main page at:

http://www.cheresources.com

Thanks for visiting our site,

Chris Haslego
President
Cheresources, Inc.

1422 Goswick Ridge Road
Midlothian VA 23114

Fax: 561-658-6489
Email: support@cheresources.com

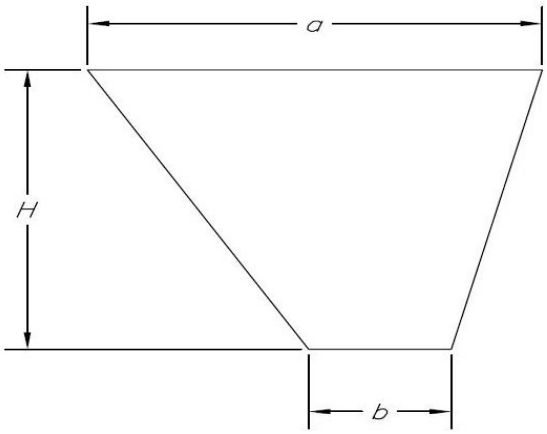
Content Based
Chemical Engineering

10/04/11

MAP/MAV - Trapezoidal Plate, full edge support

SERVICE :

---------- Plate ----------			---------- Liquid Load ----------		
Long Parallel Side :		in. (a)	Height :		in.
Short Parallel Side :		in. (b)	Specific Gravity :		
Distance Between Parallel Sides :		in. (H)	P(liquid) :		psi
$a-\left(\frac{a-b}{3}\right)$:		in. (L)			
Plate Thickness :		in.			
Corrosion Allowance :		in.			
Actual Thickness :		in. (t)			
Allowable Stress :		psi (S)			



---------- MAP Calculation ----------

$$MAP := 3.56 S \cdot t^2 \cdot \left(\frac{L^2 + H^2}{L^2 \cdot H^2}\right) - P(liquid) =$$ psi

---------- MAV Calculation ----------

---------- Top Plate ----------		
Top Area, A =		sq. in.
Weight, W =		
W/A =		

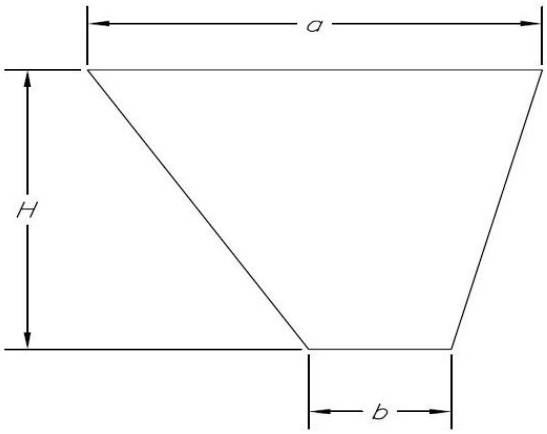
$$MAV := 3.56 S \cdot t^2 \left(\frac{L^2 + H^2}{L^2 \cdot H^2}\right) - \frac{W}{A} =$$ psi

10/04/11

MAP/MAV - Trapezoidal Plate, full edge support

SERVICE :

---------- Plate ----------			---------- Liquid Load ----------		
Long Parallel Side :		mm (a)	Height :		mm
Short Parallel Side :		mm (b)	Specific Gravity :		
Distance Between Parallel Sides :		mm (H)	P(liquid) :		kPa
$a-\left(\frac{a-b}{3}\right)$:		mm (L)			
Plate Thickness :		mm			
Corrosion Allowance :		mm			
Actual Thickness :		mm (t)			
Allowable Stress :		kPa (S)			



---------- **MAP Calculation** ----------

$$MAP := 3.56 S \cdot t^2 \cdot \left(\frac{L^2 + H^2}{L^2 \cdot H^2}\right) - P(liquid) =$$ kPa

---------- **MAV Calculation** ----------

---------- Top Plate ----------		
Top Area, A =		sq. mm
Weight, W =		
W/A =		

$$MAV := 3.56 S \cdot t^2 \left(\frac{L^2 + H^2}{L^2 \cdot H^2}\right) - \frac{W}{A} =$$ kPa

MAP/MAV - Trapezoidal Plate, full edge support

BASIS : This program is for internal and external pressure on a Trapezoidal Plate. Options allow calculation for the top, side and bottom plates of a vessel. The MAV calculation subtracts the dead load of the plate (W/A) from the top segment.

NOTE : Always begin a new case by retrieving the original file. Direct entry of data in cells that originally contain table lookups could cause functions to be lost and/or incorrect calculations. Cells that require data entry are colored **RED**; calculated values are black.

REFERENCES :

1) *A method for designing rectangular storage tanks.* - Kanti K. Mahajan
Chemical Engineering - March 28, 1977

2) *Pressure Vessel Handbook - 11th Edition*

3) *Manual of Steel Construction - Allowable Stress Design - A.I.S.C. 9th Edition*

procsafety@rooteshome.com